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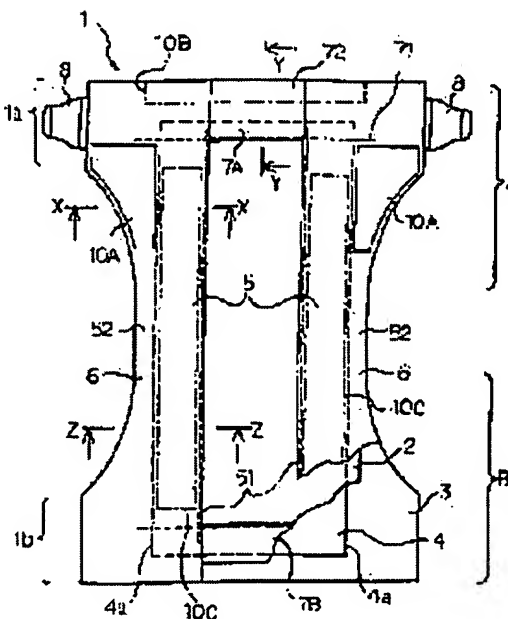
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## (54) ABSORPTIVE ARTICLE

(57)Abstract:

**PROBLEM TO BE SOLVED:** To provide an absorptive article, such as a throw-away diaper, which is excellent in the preventiveness of leakage from leg parts or waist part and does not excessively tighten the parts around the legs and trunk of a wearing person.

**SOLUTION:** This absorptive article has a liquid permeable front surface sheet 2, a liquid impermeable leak-proof sheet 3 and a liquid holdable absorber 4, is substantially longitudinally long and has a pair of side flaps 6 and 6 on both right and left sides in a longitudinal direction. Shrink sheet materials 10A and 10B consisting of shrink materials and non-shrink materials are disposed in the waist part in at least either of a back side part A and abdomen side B or a pair of the side flaps 6 and 6. The waist part 1a where the shrink sheet materials are disposed or a pair of the side flaps 6 and 6 are curved toward the inner side of the absorptive article.



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CLAIMS

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[Claim(s)]

[Claim 1] In the absorptivity goods which it has the surface sheet of liquid permeability, the watertight sheet of liquid impermeability, and the absorber of liquid holdout, are substantially longwise, and have the side flap section of a pair in the right-and-left both-sides section of a longitudinal direction In the back and the waist section at least in one side of an antinode flank, or said side flap section of a pair Absorptivity goods with which this waist section to which the contraction web material which consists of contraction material and non-contracting material is allotted to, and this contraction web material was allotted, or this side flap section of a pair is curving toward a way among absorptivity goods.

[Claim 2] Have the surface sheet of liquid permeability, the watertight sheet of liquid impermeability, and the absorber of liquid holdout, and it is substantially longwise and sets on the both-sides section of right and left of a longitudinal direction, and/or the absorptivity goods of a longitudinal direction which have a solid guard in the end section at least. Absorptivity goods with which this solid guard that is matched with the contraction web material of the both-sides section of a longitudinal direction and/or a longitudinal direction which becomes the solid guard of the end section from contraction material and non-contracting material, and was matched with this contraction web material is curving toward a way among absorptivity goods at least.

[Claim 3] Said contraction web materials are absorptivity goods [claim 4] according to claim 2 which have the band-like gestalt, are arranged along with said solid guard's longitudinal direction, and are curving along the cross direction. Said contraction web materials are absorptivity goods according to claim 1 to 3 to which said contraction material and said non-contracting material stick, and it comes to unite them, and they are curving to this contraction material side by contraction of this contraction material.

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## DETAILED DESCRIPTION

## [Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention is excellent in leakage tightness from the leg section or the waist section, and relates to the absorptivity goods which moreover bind neither the circumference of a wearer's foot, nor a periphery tight too much.

[0002]

[Description of the Prior Art] Leakage at bulb is prevented by fixing to the leg section or the waist section in the condition of having made the elastic body extending, in absorptivity goods, such as a disposable diaper, generally, binding the body tight or making it fit using the shrinkage force of an elastic body.

[0003] However, in such a disposable diaper, the multi-thread wrinkling and multi-thread clearance which extend in the direction which intersects perpendicularly with an elastic body may occur, and leakage at bulb may occur through the clearance. If it is going to prevent such leakage, in order to lose a clearance, it is necessary to make bolting tight, therefore it will bind tight especially to infants' skin, and will produce un-arranging -- marks remain.

[0004] Therefore, the purpose of this invention is excellent in leakage tightness from the leg section or the waist section, and is to offer absorptivity goods, such as a disposable diaper which moreover binds neither the circumference of a wearer's foot, nor a periphery tight too much.

[0005]

[Means for Solving the Problem] In the absorptivity goods which this invention is equipped with the surface sheet of liquid permeability, the watertight sheet of liquid impermeability, and the absorber of liquid holdout, are substantially longwise, and have the side flap section of a pair in the right-and-left both-sides section of a longitudinal direction In the back and the waist section at least in one side of an antinode flank, or said side flap section of a pair When this waist section to which the contraction web material which consists of contraction material and non-contracting material is allotted to, and this contraction web material was allotted, or this side flap section of a pair offers the absorptivity goods which are curving toward a way among absorptivity goods The above-mentioned purpose is attained (this invention is hereafter called 1st invention).

[0006] Moreover, this invention is equipped with the surface sheet of liquid permeability, the watertight sheet of liquid impermeability, and the absorber of liquid holdout. It is substantially longwise and sets on the both-sides section of right and left of a longitudinal direction, and/or the absorptivity goods of a longitudinal direction which have a solid guard in the end section at least. The both-sides section of a longitudinal direction and/or a longitudinal direction at least to the solid guard of the end section The contraction web material which consists of contraction material and non-contracting material is allotted, and this solid guard to whom this contraction web material was allotted attains the above-mentioned purpose by offering the absorptivity goods which are curving toward a way among absorptivity goods (this invention is hereafter called 2nd invention).

[0007] In addition, in this invention, it is semantics including the case where its part besides in the case of allotting the contraction web material formed in the predetermined part as another object as the contraction web material is allotted is formed of junction to a contraction web material and other \*\*, and the case where the part is formed only of the contraction web material.

[0008]

[Embodiment of the Invention] Hereafter, this invention (the 1st invention and the 2nd invention) is explained to a detail based on the desirable operation gestalt (the 1st - the 3rd operation gestalt). The disposable diaper 1 shown in drawing 1 is the so-called expansion type which is equipped with the surface sheet 2 of liquid permeability, the watertight sheet 3 of liquid impermeability, and the absorber 4 of liquid holdout, and is formed longwise substantially of disposable diaper.

[0009] The surface sheet 2 and watertight sheet 3 in the disposable diaper 1 have a respectively larger dimension than an absorber 4, and pinching immobilization of the longwise absorber 4 which makes the shape of an abbreviation rectangle between both [ these ] the sheets 2 and 3 is carried out. The watertight sheet 3 has extended so that the edges-on-both-sides section of a longitudinal direction may be located in the method of the outside of right and left rather than the edges on both sides 4a and 4a of an absorber 4. Moreover, the outer layer sheet 13 is arranged on the rear-face side of a watertight sheet 3.

[0010] The flank solid guards 5 and 5 of a right-and-left pair are formed in the both sides of the longitudinal direction of a diaper 1. Each flank solid guards 5 and 5 allot the flank web material 52 which has an elastic member 51, and are formed, each flank solid guard's 5 free end 53 is located in a way side among the disposable diapers 1 rather than the end face 54, [ near the side edge 4a of an absorber 4 ], this end face 54 carries out adhesion immobilization, and the flank web material 52 is formed in the surface sheet 2. In the free end 53, each flank web material 52 has extended so that the rim section of the opposite side may be located in the method of outside [ a / of an absorber 4 / side edge 4 ], and the extension part is stuck on a watertight sheet 3, and it forms the side flap section 6 in the both-sides section of right and left of a diaper 1 with this watertight sheet 3.

[0011] Moreover, the edge web materials 72 and 72 which have an elastic member 71, respectively are allotted to the both ends of the longitudinal direction of the disposable diaper 1, and backside solid guard 7A and venter solid guard 7B are formed in them, respectively. In addition, although the leg section elastic member for leg gathers formation is not allotted, within limits which do not bind a wearer's skin tight too much, the leg section elastic member may be allotted from a viewpoint of the leakage-at-bulb prevention effectiveness of the circumference of a leg. Moreover, the FASUNINGU tape 8 for diaper firm attachment is formed in the right-and-left edges-on-both-sides

section in the back.

[0012] The structure of the disposable diaper 1 explained above is the basic structure common to the disposable diaper of the 3rd operation gestalt of the 2nd invention, and can usually use various kinds of well-known ingredients for the 1st and 2nd operation gestalt list of the 1st invention without a limit especially as each part material which constitutes this basic structure.

[0013] Next, the features part in the disposable diaper of the 1st operation gestalt is explained. As the disposable diaper of the 1st operation gestalt is shown in drawing 1 and drawing 2, contraction web-material 10A which consists of contraction material 11 and non-contracting material 12 is allotted to the side flap sections 6 and 6 of the pair in Back A, respectively, and these side flap sections 6 and 6 of a pair are curving toward a way among the disposable diapers 1.

[0014] Each contraction web-material 10A has the longwise configuration substantially, makes the longitudinal direction of the disposable diaper 1 carry out abbreviation coincidence of the longitudinal direction, and is allotted. And in a natural condition, all fields are covered mostly, it is curving to the contraction material 11 side along the cross direction of a diaper 1, and, as for each contraction web-material 10A, the side flap section 6 in the back of the longitudinal direction is curving to the approximate circle arc toward a way by the curve of each contraction web-material 10A among diapers 1. In addition, as for each contraction web-material 10A, junction immobilization of the non-contracting material 12 side is carried out by well-known means, such as adhesives and joining, at the flank web material 52.

[0015] Moreover, as another operation gestalt, between the flank web material 52, the watertight sheet 3, or the outer layer sheet 13, contraction sheet 10A makes the contraction material 11 the flank web-material 52 side, and pinching immobilization may be carried out. Furthermore, as another operation gestalt, the flank web material 52 in the side flap section 6 may be the contraction material 11, and a watertight sheet 3 or the outer layer sheet 13 may be non-contracting material. That is, the side flap section 6 may be constituted by contraction web-material 10A.

[0016] Next, the features part in the disposable diaper of the 2nd operation gestalt is explained. As the disposable diaper of the 2nd operation gestalt is shown in drawing 1 and drawing 3, contraction web-material 10B which consists of contraction material 11 and non-contracting material 12 is allotted to waist section 1a in Back A, and this waist section 1a is curving toward a way among disposable diapers. Here, at the time of wear, the waist section means the part which is a wearer and which turns the waist (waist), thru/or is allotted to a periphery, and means an about 30mm part from the edge of the longitudinal direction of a disposable diaper.

[0017] Contraction web-material 10B has the longwise band-like configuration substantially, and it is allotted so that the longitudinal direction may be in agreement crosswise [ of the disposable diaper 1 ], and a natural condition -- setting -- contraction web-material 10B -- the longitudinal direction -- all fields are covered mostly, it curves to the contraction material 11 side along the cross direction, and waist section 1a is curving to the approximate circle arc toward a way by the curve of this contraction web-material 10B among diapers 1. In waist section 1a, between the edge web material 72 and the watertight sheet 3, contraction web-material 10B in the 2nd operation gestalt makes the contraction material 11 the edge web-material 72 side, and pinching immobilization is carried out. In addition, contraction web-material 10B is allotted so that the edge by the side of the edge of the longitudinal direction of a diaper 1 may carry out abbreviation coincidence in the location of this edge of a diaper.

[0018] Moreover, as another operation gestalt, it may be joined on the edge web material 72 or the outer layer sheet 13, and pinching immobilization of the contraction sheet 10B may be carried out between the watertight sheet 3 and the outer layer sheet 13. Furthermore, waist section 1a may be constituted by contraction web-material 10B as another operation gestalt.

[0019] Next, the features part in the disposable diaper of the 3rd operation gestalt is explained. As the disposable diaper of the 3rd operation gestalt is shown in drawing 1 and drawing 4, contraction web-material 10C which consists of contraction material 11 and non-contracting material 12 is allotted to the flank solid guards 5 and 5 of the pair of the right-and-left both sides of the longitudinal direction, and the both-sides section solid guards 5 and 5 are curving toward a way among disposable diapers.

[0020] Each contraction web-material 10C has the longwise abbreviation rectangle-like configuration, makes the longitudinal direction in agreement with each flank solid guard's longitudinal direction, and is allotted. and a natural condition -- setting -- each contraction web-material 10C -- the longitudinal direction -- all fields are covered mostly and it curves to the contraction material 11 side along the cross direction, and by the curve of each contraction web-material 10C, each flank solid guard 5 is curving along the cross direction so that an approximate circle arc may be made toward the free end 53 from the end face 54. Each contraction web-material 10C makes the non-contracting material 11 contact the field which counters the surface sheet 2 in each flank solid guard 5 in this field, makes, and adhesion immobilization is carried out.

[0021] Moreover, it may be allotted to the field side where contraction sheet 10C does not counter the surface sheet 2 in the flank solid guard 5 as another operation gestalt, and the flank solid guard 5 may be constituted by contraction web-material 10C as still more nearly another operation gestalt.

[0022] The contraction web material 10 (10A-10C) in the 1-3rd operation gestalt is a laminating sheet which sheet-like the contraction material 11 and the non-contracting material 12 stick, is set, and becomes, respectively, as shown in drawing 2 -4. It is what the contraction material 11 is contracted [ what ] in the condition of being stuck with the non-contracting material 12, and incurvates this contraction web material 10 to this contraction material 11 side. It is desirable that it is a sheet-like. As this contraction material 11 \*\* Natural rubber, synthetic rubber, a synthetic-resin film, a synthetic-resin network, form material, Or the elastic sheet, \*\* polyethylene which consist of spring materials, such as those combination, The sheet contracted by mechanical processes which consist of heat shrink nature ingredients, such as polypropylene, such as a heat shrink nature sheet and \*\* embossing, \*\* The elastic sheet which can mention the sheet contracted by chemical preparation, such as the dissolution by the solvent, the compound sheet which combined the sheet of the \*\* above-mentioned \*\* - \*\* with arbitration, and consists of a spring material of the above-mentioned [ from a viewpoint of high holdout of a curve configuration ] \*\* also in these is desirable. The elastic sheet of the above-mentioned \*\* can incurvate the contraction web material 10 by sticking with the non-contracting material 12 in an expanding condition.

[0023] In case the contraction material 11 contracts, as long as the non-contracting material 12 is a web material with contraction smaller than this contraction material 11 and may incurvate the contraction web material 10 to the contraction material 11 side, there is especially no limit in the formation ingredient, and it may contract it to some extent with contraction of the contraction material 11 into it. Moreover, as a formation ingredient of the non-contracting material 12, a nonwoven fabric, textile fabrics, the film made of synthetic resin, form material, or those combination can be mentioned.

[0024] Moreover, although it is not restricted as an approach of sticking the contraction material 11 and the non-contracting material 12 especially as long as the contraction material 11, such as adhesion, heat welding, and attaching by sewing, and the non-contracting material 12 by adhesives can be stuck, from viewpoints, such as the versatility of the ease of the lamination processing in a production line, low

cost, and a lamination pattern, adhesion and heat welding are desirable and especially heat welding is desirable. Moreover, as a coating pattern of the adhesives at the time of not being restricted [ attaching by sewing / especially / adhesion, heat welding, ] about the approach of fixing contraction web-material 10 the very thing to absorptivity goods, either in which the contraction material 11 and the non-contracting material 12 are pasted up, the shape of \*\*\*\* and a spiral, a line, the letter of dispersion, etc. are mentioned, and, in addition, joining patterns, such as heat joining, can also be used as the same pattern.

[0025] Except allotting contraction sheet 10 A-C to a predetermined part, the disposable diaper concerning the 1st - the 3rd operation gestalt can be manufactured like the disposable diaper of the usual expansion mold, and can be used like the diaper of the usual expansion mold, respectively.

[0026] And according to the disposable diaper of the 1st operation gestalt, contraction web-material 10B is allotted to said side flap sections 6 and 6 of a pair, and since these side flap sections 6 and 6 of a pair are curving toward a way among diapers 1, the leakage from the circumference of a foot can be effectively prevented by the elastic member for leg gathers formation etc., without binding the circumference of a foot tight too much. Furthermore, the side flap section is not turned over and a foreign matter does not infiltrate into the inside side of the side flap section. Moreover, since a predetermined gap is formed between a wearer's skins and the insides (skin contact side) of the side flap section 6 at the time of wearing, it is hard to produce MURE, a rash, etc. in the circumference of a foot. Moreover, since the saccate bulge section S is formed in the both-sides section of the wearer at the time of wear, an appearance becomes what was excellent also in design.

[0027] Moreover, according to the disposable diaper of the 2nd operation gestalt, contraction web-material 10A is allotted to waist section 1a, and since this waist section 1a is curving toward a way among disposable diapers, the leakage from waist section 1a can be effectively prevented by the elastic member for waist gathers formation etc., without binding a periphery tight too much. Furthermore, waist section 1a is not turned over and a foreign matter does not infiltrate into the inside side of waist section 1a. Moreover, since a predetermined gap is formed between a wearer's skins and the insides (skin contact side) of waist section 1a at the time of wearing, it is hard to produce MURE, a rash, etc. in the circumference of the waist. Moreover, since saccate bulge section S' is formed in the circumference of the waist of the wearer at the time of wear, it becomes the thing excellent in the appearance.

[0028] Moreover, according to the disposable diaper of the 3rd operation gestalt, contraction web-material 10C is allotted to the flank solid guard, and since this solid guard 5 is curving toward a way among diapers, the leakage from the circumference of a foot can be effectively prevented by the elastic member 51 grade for solid guard formation, without binding the circumference of a foot tight too much. Since especially contraction web-material 10C has the band-like gestalt, is allotted along with the flank solid guards' 5 and 5 longitudinal direction and is curving along the cross direction, it is what was excellent with the starting effectiveness. Furthermore, since the flank solid guard 5 is curving toward a way among diapers according to the disposable diaper of the 3rd operation gestalt, the liquid which entered inside the flank solid guard 5 cannot overcome the flank solid guard 5 easily, and has become the thing excellent in the leakage prevention effectiveness.

[0029] In addition, the leakage from waist section 1a can be prevented effectively, without binding a periphery tight too much by the elastic member for waist gathers formation etc., if the same flexible member as the solid guards 7A and 7B of a backside and/or a venter is allotted to the flank solid guards 5 and 5 in addition to a substitute or these flank solid guards 5 and 5.

[0030] As mentioned above, although the desirable operation gestalt of the 1st invention and each 2nd invention was explained, it is not restricted to an above-mentioned operation gestalt, respectively, and can change variously in the range which does not deviate from the meaning of each invention.

[0031] For example, the above-mentioned basic structure common to each operation gestalt can also be changed suitably. Moreover, contraction web-material 10A in the 1st operation gestalt may be allotted to the part located in the antinode flank B in the side flap section 6, and it may be allotted so that the antinode flank B may be covered from Back A. Moreover, the contraction web material 10 may be formed for the flank web material 52 as non-contracting material 12.

[0032] Moreover, contraction web-material 10B in the 2nd operation gestalt may be allotted to waist section 1b of the antinode flank B, and may be allotted to both Back A and the antinode flank B. Moreover, it is not necessary to allot contraction web-material 10C in the 3rd operation gestalt so that it may continue between Back A and the antinode flank B, and it may be allotted only to the part located in Back A or the antinode flank B.

[0033] Moreover, the contraction web material in the 1st and 2nd invention may be prepared in the front face of absorptivity goods as in the 1st operation gestalt, and may be arranged in the interior of absorptivity goods as in the 2nd operation gestalt. Moreover, the explanation abbreviation part in the operation gestalt of 1 can apply the requirements which it is suitably applied to other operation gestalten, and only the operation gestalt of 1 has to other operation gestalten, respectively. In addition, this invention is also applicable to the disposable diaper of a trousers mold besides the disposable diaper of the expansion mold for infants or an adult, incontinentia putt, a sanitary napkin, etc.

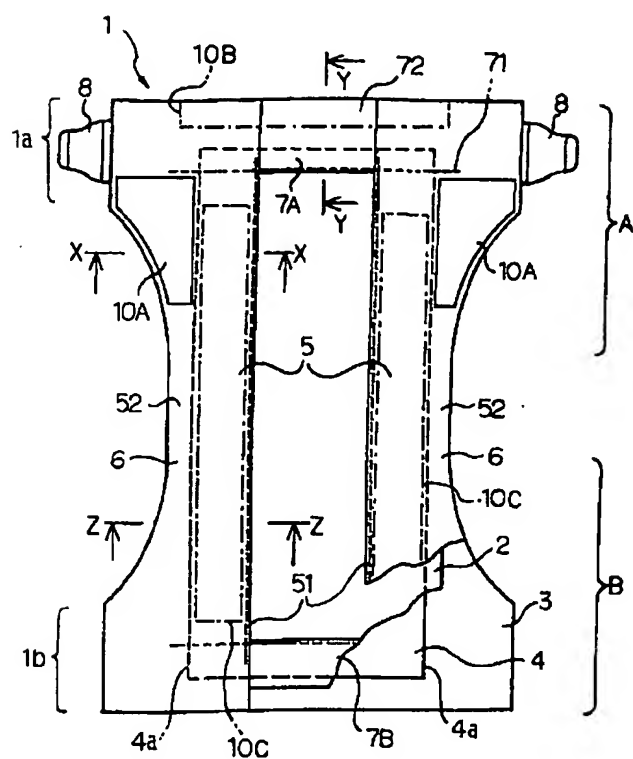
[0034]

[Effect of the Invention] According to this invention (the 1st and 2nd invention), it excels in leakage tightness from the leg section or the waist section, and absorptivity goods, such as a disposable diaper which moreover binds neither the circumference of a wearer's foot nor a periphery tight too much, can be offered.

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[Translation done.]

Drawing selection **Representative drawing**

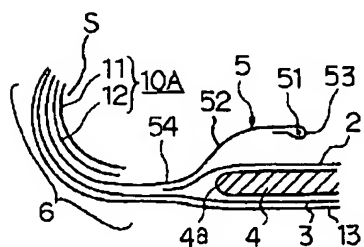


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Drawing selection drawing 2

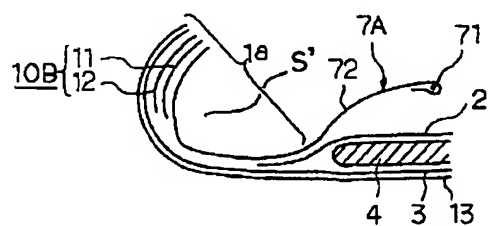
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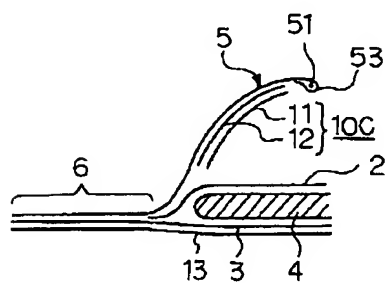
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Drawing selection drawing 3



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Drawing selection drawing 4



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